

Om Borda

Würzburg, Germany

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SKILLS

- Production ML Pipelines
- LLMs & RAG
- Agentic AI
- Computer Vision
- LangChain / LangGraph
- PyTorch / TensorFlow
- Scikit-learn
- MLOps & Infrastructure

EXPERIENCE

Machine Learning Engineer (Werkstudent)

Axinity GmbH

Jul 2025 – Present

Potsdam, Germany (Remote)

- Owned the design and deployment of a production 4-stage hybrid recommendation system combining LLMs, multilingual embeddings, Qdrant vector search, metadata filtering, and re-ranking, driving the full retrieval-to-ranking pipeline from feature engineering through offline evaluation and A/B testing.
- Extended the platform with RAG-inspired semantic retrieval for creator discovery and shipped an OCR-based video analysis pipeline for profiling and content safety, with production integration, monitoring, and retraining hooks.

Research Assistant - Agentic AI (HiWi)

Technical University of Applied Sciences (THWS)

Apr 2025 – Sep 2026

Würzburg, Germany

- Explored agentic AI workflows as part of ongoing research, covering multi-step LLM pipelines with memory, tool use, and planning.
- Supported evaluation of multi-agent systems across task completion and tool-use reliability, working with existing research benchmarks and pipeline tooling.

Data Analytics & Machine Learning Engineer

Bigscal Technologies Pvt. Ltd.

Jun 2023 – Feb 2024

Gujarat, India

- Built and delivered end-to-end ML and data analytics solutions for client projects, progressing from intern to full-time within 3 months based on project ownership and delivery quality.

Full Stack Developer

Greendotslab Software Solutions

May 2022 – Jun 2023

Gujarat, India

- Built and deployed 10+ client web applications end-to-end using Node.js and React, with load balancing and modular architecture for production.

PROJECTS

Stock Research Agent ↗ | *LangGraph, LangChain, Groq, Qdrant, Supabase, FastAPI, Next.js*

- Built an autonomous 5-node LangGraph pipeline that generates institutional-grade equity research reports, covering RAG over SEC 10-K/10-Q filings via Qdrant hybrid search, real-time news sentiment, and a self-correcting Critic Agent with confidence gating, reducing manual research from ~6 hours to ~60 seconds across 6 global exchanges.

Medical Image XAI & Model Compression ↗ | *PyTorch, ResNet18, Grad-CAM, LIME, MobileNetV2*

- Fine-tuned ResNet18 for pneumonia detection with Grad-CAM and LIME explainability; compressed MobileNetV2 via structured pruning and INT8 quantization, reducing model size from 8.7 MB to 4.4 MB (−49%) with no accuracy loss.

Blackjack AI ↗ | *Python, Q-Learning, Monte Carlo, Reinforcement Learning*

- Trained and compared Q-Learning and Monte Carlo agents converging toward mathematically optimal Blackjack strategy; convergence behaviour and win rates documented in a published technical report.

Additional Projects: featuring 10+ AI/ML implementations ↗

PUBLICATION

Development of a Self-Learning Blackjack Player using Q-Learning and Card Counting ↗

Om Borda · THWS · 2025

- Developed a custom single-deck Blackjack simulation and trained Q-learning agents with an expanded state space including player sum, dealer upcard, usable ace, and Hi-Lo running count to learn adaptive decision-making under different casino rule settings.
- Evaluated 5 strategy variants over 10,000 test games and showed that card counting and rule-aware learning improved performance, with Double After Split achieving the best results (38.29% win rate and −13.71 profit per 100 hands) compared with the basic strategy baseline.

EDUCATION

Technische Hochschule Würzburg-Schweinfurt (THWS)

Master of Science in Artificial Intelligence

March 2025 – Present

Gujarat Technological University

Bachelor of Computer Science & Engineering

July 2020 – May 2024

GPA: 9.10/10 (1.4)

LANGUAGE

English - C1

German - B1